

Engineer Job Description

The description of the kind of work an intern engineer is expected to do in the Department of the Navy or the Marine Corps is written at a fairly high level. Generally, the engineer is initially expected to be a graduate from an accredited engineering, mathematical or physical science course of study. The training that intern receives is both specific in its application to an area of expertise (Tanks, Guns, Ammunition, Software, Communications, etc) that resides in the intern's target office – usually your first office assignment. There will be general training appropriate to the Departments of Defense, Navy and the Marine Corps. You will start out as a GS-7 or GS-9 grade employee. In the past you would have graduated the intern program into a GS-12 position. However, the Marine Corps Systems Command is currently under a pay plan demonstration and you would be graduating into a NH-III position, which is equivalent to a GS12/13.

Ultimately, you would be looking at a NH-IV position, which is at the GS-14/15 grade level. The following example is a description of the duties and responsibilities of such a future position.

ENGINEER

LEVEL IV (GS-15)

(WORK REQUIRES KNOWLEDGE OF TWO OR MORE ENGINEERING DISCIPLINES)

AUTHORIZED TITLES & SERIES:

GENERAL ENGINEER, NH-801
SAFETY ENGINEER, NH-803
MECHANICAL ENGINEER, NH-830
ELECTRONICS ENGINEER, NH-855
ELECTRICAL ENGINEER, NH-850
COMPUTER ENGINEER, NH-854
CHEMICAL ENGINEER, NH-893
CIVIL ENGINEER, NH-810
INDUSTRIAL ENGINEER, NH-896
PHYSICAL SCIENTIST, NH-1301
COMPUTER SCIENTIST, NH-1550

WORK SITUATION A.

This level represents engineers with outstanding technical leadership in pioneering areas that influence major projects, proposals, and direction of major work. The employee serves as a recognized expert and technical authority whose ideas form a basis for research and/or development ideas by others. This level represents top technical-level efforts in a major field of unexplored work where there is little or controversial theory to guide experimentation. The employee may conceive, plan, and conduct pioneering work of outstanding scope, difficulty and complexity in unexplored unpromising areas of investigation. Breakthroughs usually include new knowledge of fundamental significance and the importance can be seen through application of this knowledge to follow-on projects. The employee formulates, defines and modifies overall objectives and requirements. Evaluates feasibility of new concepts and principles and makes recommendations on continuance or abandonment of work. Keeps abreast of technical achievements within and outside the agency and other nations and evaluates the applicability to Marine Corps/Department of Navy programs. The employee provides technical advice to the Marine Corps and the Command and/or Department of Navy high-level management and technical personnel, other agencies, and private organizations. Serves on Department of Navy /Marine Corps/Interagency/Technical society panels and committees of national or international scope. Serves as a consultant to other technical experts in the field and provides advice on issues when experts disagree. Makes presentations and write technical reports and papers in areas of expertise. Scientific findings and applications have a major impact in the employee's specialty areas and are important to advancing the state-of-the-art. Technical supervision is minimal. Sponsors and higher management provide administrative direction for such items as funding, resources, and agency policies. At this level advanced knowledge of the engineer's specialty is required to develop new approaches in unexplored areas.

WORK SITUATION B.

At this level, the employee has managerial and decision authority for programs that have broad impact within the Department of Defense/Department of Navy/Marine Corps. Decisions involve policy that impacts the Command's ability to complete the assigned mission. Plans made by the incumbent affect the organization's long-range goals, objectives, and direction, and require an analytical approach in order to forecast future trends and outcomes. The employee is responsible for guiding the work through subordinates or other personnel by means of periodic reviews, briefings, reports, or observations. The employee coordinates and integrates the work of other units, each of which may involve distinct areas of responsibility and require different skills, knowledge, and abilities to perform the work. The employee helps to identify where corrective action is needed and provides assistance and advice to personnel where problems exist or are developing. The manager works closely with others outside the Command to further Marine Corps programs. The incumbent is the primary contact with the sponsors of various programs under their management responsibility and provides information and advice to higher-level managers when the work of the unit impacts other groups. The incumbent develops, plans, implements, reviews, and directs assigned program that involve work in areas of considerable engineering difficulty and complexity. Government/industry teams in close coordination with the Marine Corps execute these multiple mission focused acquisition programs. The final goal is to successfully incorporate the latest technology in acquisition programs and ultimately the fielding of

new and enhanced capability. Maintains knowledge and familiarity of acquisition advanced development programs with activities of other agencies to prevent duplication of effort, and to utilize development of other agencies that can be effectively and economically applied to the requirements of Command programs. At this level advanced knowledge of programs is required to develop new policies and guidelines for unexplored areas.

Please select one or more of the engineering or other disciplines below that the incumbent must have professional knowledge of. If the incumbent must have paramount knowledge of two or more disciplines, then the position must be titled a General Engineer.

___ Mechanical Engineering - Applies thermodynamics, mechanics, and other physical, mathematical and engineering sciences to problems concerned with the production, transmission, measurement, and use of energy (mechanical power).

___ Electrical Engineering - Applies knowledge of physical and engineering sciences and mathematics, electrical phenomena, and principles, techniques, and practices of electrical engineering (electrical circuits, circuit elements, equipment, systems)

___ Electronics Engineering - Applies knowledge of the physical and engineering sciences and mathematics, electronic phenomena, and the principles, techniques and practices of electronics engineering (electronic circuits, circuit elements, equipment, systems, and associated phenomena concerned with electromagnetic or acoustical wave energy)

___ Computer Engineering - Applies knowledge of fundamentals and principles of professional engineering, computer hardware, system software, and computer system architecture and integration, and mathematics, including calculus, probability, statistics, discrete structures, and modern algebra.

___ Chemical Engineering - Work involves chemical engineering and changes in the chemical composition or physical state of materials and requires primary application of knowledge of the principles and practices of chemical engineering, chemistry, and other scientific and engineering disciplines.

___ Civil Engineering - Applies knowledge of the physical sciences and mathematics underlying engineering, mechanics of solids, particularly of soils, hydraulics, theory of structure, strength of materials, engineering geology, and surveying.

___ Industrial Engineering - Concerned with planning, design, analysis, improvement, and installation of integrated systems of employees, material, and equipment to produce a product or render a service. Requires knowledge and skill in the mathematical, physical, and social sciences together with principles of engineering analysis and design.

___ Computer Science - Requires professional competence in applying the theoretical foundations of computer science, including computer system architecture and system software organization, the representation and transformation of information structure, and the theoretical models for such representations and transformations, knowledge of the design characteristics, limitations, and potential applications of systems having the ability to transform information, and knowledge of relevant mathematical and statistical sciences.

___ Physical Science - Includes all classes of positions that involve work in the physical sciences concerned with matter, energy, physical space, time, nature of physical measurement, and fundamental structural particles, and the nature of the physical environment.

___ Safety Engineering – Requires professional competence in advanced mathematical techniques; professional engineering principles; methods and techniques; safety related elements of the physical sciences; ergonomics; psychology and physiology; and safety principals, standards, practices, and analytical techniques.

Please select the paragraph below if the incumbent serves as a supervisor.

___ Performs the full range of administrative and technical supervisory duties. Responsible for understanding and actively supporting the Command's Affirmative/EEO Programs; ensuring EEO principles are reflected in all aspects of personnel management. Assigns work and establishes priorities; evaluates performance of subordinates; gives advice, counsel and/or instruction to subordinates on both work and administrative matters; interviews and recommends selection of candidates for positions, promotions and reassignments, hears, and resolves complaints from subordinates. Exercises full authority as a member of the pay pool management, in assessing contribution and preparing statements of duties and experience for Demonstration employees

Please select the following if the incumbent serves as a team leader on a regular basis leading three or more employees.

___ Serves as a team leader providing guidance and direction to team members.